Remarks

The Office Action mailed August 22, 2007 has been carefully reviewed and the following response has been made in consequence thereof.

Claims 1-36 are now pending in this application. Claims 1-36 stand rejected.

The rejection of Claims 1, 2, 5-8, 13, 14, 17-20, 25, 26, 31, and 32 under 35 U.S.C. § 102(a) as being anticipated by Komura et al. (U.S. Patent 6,566,878) (hereinafter referred to as "Komura") is respectfully traversed.

Komura describes correcting variations in a spatial phase distribution due to static magnetic field changes based on phase variations at various points. Specifically, the correction is based on phase variations at either three points or a plurality of points selected by a region of interest, in an area where no temperature change is encountered. A temperature distribution image is determined using a spatial phase distribution that reflects only the temperature changes after the correction. More specifically, Komura describes imaging at a time t_1 and at a time t_i and performing a complex difference calculation to correct a change in a spatial phase distribution due to a static magnetic change. Applicant submits that a description of performing a complex difference calculation to correct a change in a spatial phase distribution due to a static magnetic change is not a description of estimating a phase distribution of complex magnetic resonance signals before a temperature change in a region of interest *based on a phase distribution of complex magnetic resonance signals in a portion surrounding the region of interest*. Accordingly, Applicant submits that the claimed invention is patentable over Komura.

Claim 1 recites a method comprising "when a local temperature change takes place in a certain position inside an object, acquiring a measured phase distribution image representing a temperature distribution inside said object using, as a temperature indicator, a phase of complex magnetic resonance signals from water protons inside said object observed by a magnetic resonance tomographic imaging technique...defining a certain position in said acquired measured phase distribution image as a region of interest...estimating a phase

distribution of complex magnetic resonance signals before a temperature change in said region of interest based on a phase distribution of complex magnetic resonance signals in a portion surrounding said region of interest...acquiring an estimated phase distribution image based on said estimated phase distribution...calculating an amount of phase variation of complex magnetic resonance signals caused by a temperature change in said region of interest by conducting subtraction between said measured phase distribution image and said estimated phase distribution image on a pixel-by-pixel basis...measuring an amount of a temperature change in said region of interest based on said amount of variation."

Komura does not describe nor suggest a method as recited in Claim 1. More specifically, Komura does not describe nor suggest a method including estimating a phase distribution of complex magnetic resonance signals before a temperature change in a region of interest based on a phase distribution of complex magnetic resonance signals in a portion surrounding the region of interest. Rather, Komura describes performing a complex difference calculation to correct a change in a spatial phase distribution due to a static magnetic change. For at least the reasons set forth above, Claim 1 is submitted to be patentable over Komura.

Claims 5, 7, and 8 depend from Claim 1. When the recitations of Claims 5, 7, and 8 are considered in combination with the recitations of Claim 1, Applicant submits that Claims 5, 7, and 8 are likewise patentable over Komura.

Claim 2 recites a method comprising "when a local temperature change takes place in a certain position inside an object, acquiring a real-part image and an imaginary-part image as measured complex images incorporating a temperature distribution inside said object using, as a temperature indicator, a phase of complex magnetic resonance signals from water protons inside said object observed by a magnetic resonance tomographic imaging technique...defining the same position in said acquired real-part and imaginary-part images as a region of interest...estimating a distribution of a real part and an imaginary part of complex magnetic resonance signals before a temperature change in said region of interest based on a distribution of a real part and an imaginary part of complex magnetic resonance signals in a portion surrounding said region of interest...acquiring an estimated complex

image based on said estimated real-part and imaginary-part distribution...calculating an amount of phase variation of complex magnetic resonance signals caused by a temperature change in said region of interest by calculating a phase difference between said measured complex image and said estimated complex image on a pixel-by-pixel basis...measuring an amount of a temperature change in said region of interest based on said amount of variation."

Komura does not describe nor suggest a method as recited in Claim 2. More specifically, Komura does not describe nor suggest a method including estimating a distribution of a real part and an imaginary part of complex magnetic resonance signals before a temperature change in a region of interest based on a distribution of a real part and an imaginary part of complex magnetic resonance signals in a portion surrounding the region of interest. Rather, Komura describes performing a complex difference calculation to correct a change in a spatial phase distribution due to a static magnetic change. For at least the reasons set forth above, Claim 2 is submitted to be patentable over Komura.

Claims 6, 25, and 26 depend from Claim 2. When the recitations of Claims 6, 25, and 26 are considered in combination with the recitations of Claim 2, Applicant submits that Claims 6, 25, and 26 are likewise patentable over Komura.

Claim 13 recites a temperature change measurement apparatus comprising "means of, when a local temperature change takes place in a certain position inside an object, producing a measured phase distribution image representing a temperature distribution of said object using, as a temperature indicator, a phase of complex magnetic resonance signals from water protons inside said object observed by a magnetic resonance tomographic imaging technique...means of defining a region of interest in said acquired measured phase distribution image...means of estimating a phase distribution of complex magnetic resonance signals before a temperature change in said region of interest based on a phase distribution of complex magnetic resonance signals in a portion surrounding said region of interest...means of producing an estimated phase distribution image based on said estimated phase distribution...means of producing a phase difference distribution image from a phase difference in complex magnetic resonance signals caused by a temperature change in said region of interest by conducting subtraction between said measured phase distribution image

and said estimated phase distribution image on a pixel-by-pixel basis...means of calculating a temperature change from said phase difference distribution image."

Komura does not describe nor suggest a temperature change measurement apparatus as recited in Claim 13. More specifically, Komura does not describe nor suggest a temperature change measurement apparatus including a means of estimating a phase distribution of complex magnetic resonance signals before a temperature change in a region of interest based on a phase distribution of complex magnetic resonance signals in a portion surrounding the region of interest. Rather, Komura describes performing a complex difference calculation to correct a change in a spatial phase distribution due to a static magnetic change. For at least the reasons set forth above, Claim 13 is submitted to be patentable over Komura.

Claims 17, 19, and 20 depend from Claim 13. When the recitations of Claims 17, 19, and 20 are considered in combination with the recitations of Claim 13, Applicant submits that Claims 17, 19, and 20 are likewise patentable over Komura.

Claim 14 recites a temperature change measurement apparatus comprising "means of, when a local temperature change takes place in a certain position inside an object, producing a real-part image and an imaginary-part image as measured complex images incorporating a temperature distribution of said object using, as a temperature indicator, a phase of complex magnetic resonance signals from water protons inside said object observed by a magnetic resonance tomographic imaging technique...means of defining a region of interest in said acquired measured complex image...means of estimating a complex image before a temperature change in said region of interest based on a distribution of a real part and an imaginary part of complex magnetic resonance signals in a portion surrounding said region of interest...means of producing an image representing the amount of phase variation of complex magnetic resonance signals caused by a temperature change in said region of interest by calculating a phase difference between said measured complex image and said estimated complex image on a pixel-by-pixel basis...means of calculating a temperature change from said phase distribution image."

Komura does not describe nor suggest a temperature change measurement apparatus as recited in Claim 14. More specifically, Komura does not describe nor suggest a temperature change measurement apparatus including a means of estimating a complex image before a temperature change in a region of interest based on a distribution of a real part and an imaginary part of complex magnetic resonance signals in a portion surrounding the region of interest. Rather, Komura describes performing a complex difference calculation to correct a change in a spatial phase distribution due to a static magnetic change. For at least the reasons set forth above, Claim 14 is submitted to be patentable over Komura.

Claims 18, 31, and 32 depend from Claim 14. When the recitations of Claims 18, 31, and 32 are considered in combination with the recitations of Claim 14, Applicant submits that Claims 18, 31, and 32 are likewise patentable over Komura.

For at least the reasons set forth above, Applicant respectfully request that the Section 102 rejection of Claims 1, 2, 5-8, 13, 14, 17-20, 25, 26, 31, and 32 be withdrawn.

The rejection of Claims 3, 4, 15, and 16 under 35 U.S.C. § 103(a) as being unpatentable over Komura in view of Bernstein et al. (U.S. Patent 5,226,418) (hereinafter referred to as "Bernstein") is respectfully traversed.

Komura is described above.

Bernstein describes an NMR system that produces an angiogram using a complex-difference method. The system reduces artifacts caused by system phase errors by calculating a corrected phase angle using acquired NMR data sets and using the corrected phase angle to calculate the complex difference in corresponding elements of the image domain NMR data sets. Notably, Bernstein does not describe nor suggest estimating a phase distribution of complex magnetic resonance signals before a temperature change in a region of interest based on a phase distribution of complex magnetic resonance signals in a portion surrounding the region of interest.

Claim 3 depends from Claim 1, which is recited above.

Neither Komura nor Bernstein, considered alone or in combination, describe or suggest a method as is recited in Claim 1. More specifically, neither Komura nor Bernstein, considered alone or in combination, describe or suggest a method including estimating a phase distribution of complex magnetic resonance signals before a temperature change in a region of interest based on a phase distribution of complex magnetic resonance signals in a portion surrounding the region of interest. Rather, Komura describes performing a complex difference calculation to correct a change in a spatial phase distribution due to a static magnetic change, and Bernstein describes an NMR system that produces an angiogram using a complex-difference method. For at least the reasons set forth above, Claim 1 is submitted to be patentable over Komura in view of Bernstein.

Claim 3 depends from Claim 1. When the recitations of Claim 3 are considered in combination with the recitations of Claim 1, Applicant submits that Claim 3 is likewise patentable over Komura in view of Bernstein.

Claim 4 depends from Claim 2, which is recited above.

Neither Komura nor Bernstein, considered alone or in combination, describe or suggest a method as is recited in Claim 2. More specifically, neither Komura nor Bernstein, considered alone or in combination, describe or suggest a method including estimating a distribution of a real part and an imaginary part of complex magnetic resonance signals before a temperature change in a region of interest based on a distribution of a real part and an imaginary part of complex magnetic resonance signals in a portion surrounding the region of interest. Rather, Komura describes performing a complex difference calculation to correct a change in a spatial phase distribution due to a static magnetic change, and Bernstein describes an NMR system that produces an angiogram using a complex-difference method. For at least the reasons set forth above, Claim 2 is submitted to be patentable over Komura in view of Bernstein.

Claim 4 depends from Claim 2. When the recitations of Claim 4 are considered in combination with the recitations of Claim 2, Applicant submits that Claim 4 is likewise patentable over Komura in view of Bernstein.

Claim 15 depends from Claim 13, which is recited above.

Neither Komura nor Bernstein, considered alone or in combination, describe or suggest a temperature change measurement apparatus as is recited in Claim 13. More specifically, neither Komura nor Bernstein, considered alone or in combination, describe or suggest a temperature change measurement apparatus including a means of estimating a phase distribution of complex magnetic resonance signals before a temperature change in a region of interest based on a phase distribution of complex magnetic resonance signals in a portion surrounding the region of interest. Rather, Komura describes performing a complex difference calculation to correct a change in a spatial phase distribution due to a static magnetic change, and Bernstein describes an NMR system that produces an angiogram using a complex-difference method. For at least the reasons set forth above, Claim 13 is submitted to be patentable over Komura in view of Bernstein.

Claim 15 depends from Claim 13. When the recitations of Claim 15 are considered in combination with the recitations of Claim 13, Applicant submits that Claim 15 is likewise patentable over Komura in view of Bernstein.

Claim 16 depends from Claim 14, which is recited above.

Neither Komura nor Bernstein, considered alone or in combination, describe or suggest a temperature change measurement apparatus as is recited in Claim 14. More specifically, neither Komura nor Bernstein, considered alone or in combination, describe or suggest a means of estimating a complex image before a temperature change in a region of interest based on a distribution of a real part and an imaginary part of complex magnetic resonance signals in a portion surrounding the region of interest. Rather, Komura describes performing a complex difference calculation to correct a change in a spatial phase distribution due to a static magnetic change, and Bernstein describes an NMR system that produces an angiogram using a complex-difference method. For at least the reasons set forth above, Claim 14 is submitted to be patentable over Komura in view of Bernstein.

Claim 16 depends from Claim 14. When the recitations of Claim 16 are considered in combination with the recitations of Claim 14, Applicant submits that Claim 16 is likewise patentable over Komura in view of Bernstein.

For at least the reasons set forth above, Applicant respectfully request that the Section 103 rejection of Claims 3, 4, 15, and 16 be withdrawn.

The rejection of Claims 9, 10, 21, 22, 27, 28, 33, and 34 under 35 U.S.C. § 103(a) as being unpatentable over Komura in view of Conlan et al. (U.S. Patent 5,904,147) (hereinafter referred to as "Conlan") is respectfully traversed.

Komura is described above.

Conlan describes a catheter that is positioned to prevent hemorrhage during surgery. Specifically the catheter is inserted in a deflated configuration along a passage, such as a blood vessel, near an operative site. If the blood vessel is cut during surgery, the catheter inflates a balloon that occludes the passage and stops blood flow into the injured site. Notably, Conlan does not describe nor suggest estimating a phase distribution of complex magnetic resonance signals before a temperature change in a region of interest based on a phase distribution of complex magnetic resonance signals in a portion surrounding the region of interest.

Claims 9 and 10 depend from Claim 1, which is recited above.

Neither Komura nor Conlan, considered alone or in combination, describe or suggest a method as is recited in Claim 1. More specifically, neither Komura nor Conlan, considered alone or in combination, describe or suggest a method including estimating a phase distribution of complex magnetic resonance signals before a temperature change in a region of interest based on a phase distribution of complex magnetic resonance signals in a portion surrounding the region of interest. Rather, Komura describes performing a complex difference calculation to correct a change in a spatial phase distribution due to a static magnetic change, and Conlan describes a catheter that is positioned to prevent hemorrhage

during surgery. For at least the reasons set forth above, Claim 1 is submitted to be patentable over Komura in view of Conlan.

Claims 9 and 10 depend from Claim 1. When the recitations of Claims 9 and 10 are considered in combination with the recitations of Claim 1, Applicant submits that Claims 9 and 10 are likewise patentable over Komura in view of Conlan.

Claims 27 and 28 depend from Claim 2, which is recited above.

Neither Komura nor Conlan, considered alone or in combination, describe or suggest a method as is recited in Claim 2. More specifically, neither Komura nor Conlan, considered alone or in combination, describe or suggest a method including estimating a distribution of a real part and an imaginary part of complex magnetic resonance signals before a temperature change in a region of interest based on a distribution of a real part and an imaginary part of complex magnetic resonance signals in a portion surrounding the region of interest. Rather, Komura describes performing a complex difference calculation to correct a change in a spatial phase distribution due to a static magnetic change, and Conlan describes a catheter that is positioned to prevent hemorrhage during surgery. For at least the reasons set forth above, Claim 2 is submitted to be patentable over Komura in view of Conlan.

Claims 27 and 28 depend from Claim 2. When the recitations of Claims 27 and 28 are considered in combination with the recitations of Claim 2, Applicant submits that Claims 27 and 28 are likewise patentable over Komura in view of Conlan.

Claims 21 and 22 depend from Claim 13, which is recited above.

Neither Komura nor Conlan, considered alone or in combination, describe or suggest a temperature change measurement apparatus as is recited in Claim 13. More specifically, neither Komura nor Conlan, considered alone or in combination, describe or suggest a temperature change measurement apparatus including a means of estimating a phase distribution of complex magnetic resonance signals before a temperature change in a region of interest based on a phase distribution of complex magnetic resonance signals in a portion surrounding the region of interest. Rather, Komura describes performing a complex

difference calculation to correct a change in a spatial phase distribution due to a static magnetic change, and Conlan describes a catheter that is positioned to prevent hemorrhage during surgery. For at least the reasons set forth above, Claim 13 is submitted to be patentable over Komura in view of Conlan.

Claims 21 and 22 depend from Claim 13. When the recitations of Claims 21 and 22 are considered in combination with the recitations of Claim 13, Applicant submits that Claims 21 and 22 are likewise patentable over Komura in view of Conlan.

Claims 33 and 34 depend from Claim 14, which is recited above.

Neither Komura nor Conlan, considered alone or in combination, describe or suggest a temperature change measurement apparatus as is recited in Claim 14. More specifically, neither Komura nor Conlan, considered alone or in combination, describe or suggest a means of estimating a complex image before a temperature change in a region of interest based on a distribution of a real part and an imaginary part of complex magnetic resonance signals in a portion surrounding the region of interest. Rather, Komura describes performing a complex difference calculation to correct a change in a spatial phase distribution due to a static magnetic change, and Conlan describes a catheter that is positioned to prevent hemorrhage during surgery. For at least the reasons set forth above, Claim 14 is submitted to be patentable over Komura in view of Conlan.

Claims 33 and 34 depend from Claim 14. When the recitations of Claims 33 and 34 are considered in combination with the recitations of Claim 14, Applicant submits that Claims 33 and 34 are likewise patentable over Komura in view of Conlan.

For at least the reasons set forth above, Applicant respectfully request that the Section 103 rejection of Claims 9, 10, 21, 22, 27, 28, 33, and 34 be withdrawn.

The rejection of Claims 11, 23, 29, and 35 under 35 U.S.C. § 103(a) as being unpatentable over Komura in view of Conlan and further in view of Young (U.S. Patent 6,219,572) (hereinafter referred to as "Young") is respectfully traversed.

Komura and Conlan are described above.

Young describes an injector that contains a sample of a patient's blood, saline, or another injectable medium. The injector leads to a region of interest that is being imaged in the patient via a catheter. The injector is used to inject a bolus of the injectable medium into the region of interest so that a further image can be taken. Notably, Young does not describe nor suggest estimating a phase distribution of complex magnetic resonance signals before a temperature change in a region of interest based on a phase distribution of complex magnetic resonance signals in a portion surrounding the region of interest.

Claim 11 depends from Claim 1, which is recited above.

None of Komura, Conlan, or Young, considered alone or in combination, describe or suggest a method as is recited in Claim 1. More specifically, none of Komura, Conlan, or Young, considered alone or in combination, describe or suggest a method including estimating a phase distribution of complex magnetic resonance signals before a temperature change in a region of interest based on a phase distribution of complex magnetic resonance signals in a portion surrounding the region of interest. Rather, Komura describes performing a complex difference calculation to correct a change in a spatial phase distribution due to a static magnetic change, Conlan describes a catheter that is positioned to prevent hemorrhage during surgery, and Young describes an injector that contains an injectable medium. For at least the reasons set forth above, Claim 1 is submitted to be patentable over Komura in view of Conlan and further in view of Young.

Claim 11 depends from Claim 1. When the recitations of Claim 11 are considered in combination with the recitations of Claim 1, Applicant submits that Claim 11 is likewise patentable over Komura in view of Conlan and further in view of Young.

Claim 23 depends from Claim 13, which is recited above.

None of Komura, Conlan, or Young, considered alone or in combination, describe or suggest a temperature change measurement apparatus as is recited in Claim 13. More specifically, none of Komura, Conlan, or Young, considered alone or in combination,

describe or suggest a temperature change measurement apparatus including a means of estimating a phase distribution of complex magnetic resonance signals before a temperature change in a region of interest based on a phase distribution of complex magnetic resonance signals in a portion surrounding the region of interest. Rather, Komura describes performing a complex difference calculation to correct a change in a spatial phase distribution due to a static magnetic change, Conlan describes a catheter that is positioned to prevent hemorrhage during surgery, and Young describes an injector that contains an injectable medium. For at least the reasons set forth above, Claim 13 is submitted to be patentable over Komura in view of Conlan and further in view of Young.

Claim 23 depends from Claim 13. When the recitations of Claim 23 are considered in combination with the recitations of Claim 13, Applicant submits that Claim 23 is likewise patentable over Komura in view of Conlan and further in view of Young.

Claim 29 depends from Claim 2, which is recited above.

None of Komura, Conlan, or Young, considered alone or in combination, describe or suggest a method as is recited in Claim 2. More specifically, none of Komura, Conlan, or Young, considered alone or in combination, describe or suggest a method including estimating a distribution of a real part and an imaginary part of complex magnetic resonance signals before a temperature change in a region of interest based on a distribution of a real part and an imaginary part of complex magnetic resonance signals in a portion surrounding the region of interest. Rather, Komura describes performing a complex difference calculation to correct a change in a spatial phase distribution due to a static magnetic change, Conlan describes a catheter that is positioned to prevent hemorrhage during surgery, and Young describes an injector that contains an injectable medium. For at least the reasons set forth above, Claim 2 is submitted to be patentable over Komura in view of Conlan and further in view of Young.

Claim 29 depends from Claim 2. When the recitations of Claim 29 are considered in combination with the recitations of Claim 2, Applicant submits that Claim 29 is likewise patentable over Komura in view of Conlan and further in view of Young.

Claim 35 depends from Claim 14, which is recited above.

None of Komura, Conlan, or Young, considered alone or in combination, describe or suggest a temperature change measurement apparatus as is recited in Claim 14. More specifically, none of Komura, Conlan, or Young, considered alone or in combination, describe or suggest a means of estimating a complex image before a temperature change in a region of interest based on a distribution of a real part and an imaginary part of complex magnetic resonance signals in a portion surrounding the region of interest. Rather, Komura describes performing a complex difference calculation to correct a change in a spatial phase distribution due to a static magnetic change, Conlan describes a catheter that is positioned to prevent hemorrhage during surgery, and Young describes an injector that contains an injectable medium. For at least the reasons set forth above, Claim 14 is submitted to be patentable over Komura in view of Conlan and further in view of Young.

Claim 35 depends from Claim 14. When the recitations of Claim 35 are considered in combination with the recitations of Claim 14, Applicant submits that Claim 35 is likewise patentable over Komura in view of Conlan and further in view of Young.

For at least the reasons set forth above, Applicant respectfully request that the Section 103 rejection of Claims 11, 23, 29, and 35 be withdrawn.

The rejection of Claims 12, 24, 30, and 36 under 35 U.S.C. § 103(a) as being anticipated by Komura is respectfully traversed.

Komura is described above.

Claim 12 depends from Claim 1, which is recited above.

Komura does not describe nor suggest method as is recited in Claim 1. More specifically, Komura does not describe nor suggest a method including estimating a phase distribution of complex magnetic resonance signals before a temperature change in a region of interest based on a phase distribution of complex magnetic resonance signals in a portion surrounding the region of interest. Rather, Komura describes performing a complex

difference calculation to correct a change in a spatial phase distribution due to a static magnetic change. For at least the reasons set forth above, Claim 1 is submitted to be patentable over Komura.

Claim 12 depends from Claim 1. When the recitations of Claim 12 are considered in combination with the recitations of Claim 1, Applicant submits that Claim 12 is likewise patentable over Komura.

Claim 24 depends from Claim 13, which is recited above.

Komura does not describe nor suggest a temperature change measurement apparatus as is recited in Claim 13. More specifically, Komura does not describe nor suggest a temperature change measurement apparatus including a means of estimating a phase distribution of complex magnetic resonance signals before a temperature change in a region of interest based on a phase distribution of complex magnetic resonance signals in a portion surrounding the region of interest. Rather, Komura describes performing a complex difference calculation to correct a change in a spatial phase distribution due to a static magnetic change. For at least the reasons set forth above, Claim 13 is submitted to be patentable over Komura.

Claim 24 depends from Claim 13. When the recitations of Claim 24 are considered in combination with the recitations of Claim 13, Applicant submits that Claim 24 is likewise patentable over Komura.

Claim 30 depends from Claim 2, which is recited above.

Komura does not describe nor suggest a method as is recited in Claim 2. More specifically, Komura does not describe nor suggest a method including estimating a distribution of a real part and an imaginary part of complex magnetic resonance signals before a temperature change in a region of interest based on a distribution of a real part and an imaginary part of complex magnetic resonance signals in a portion surrounding the region of interest. Rather, Komura describes performing a complex difference calculation to correct

a change in a spatial phase distribution due to a static magnetic change. For at least the reasons set forth above, Claim 2 is submitted to be patentable over Komura.

Claim 30 depends from Claim 2. When the recitations of Claim 30 are considered in combination with the recitations of Claim 2, Applicant submits that Claim 30 is likewise patentable over Komura.

Claim 36 depends from Claim 14, which is recited above.

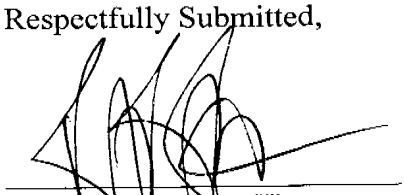
Komura does not describe nor suggest a temperature change measurement apparatus as is recited in Claim 14. More specifically, Komura does not describe nor suggest a means of estimating a complex image before a temperature change in a region of interest based on a distribution of a real part and an imaginary part of complex magnetic resonance signals in a portion surrounding the region of interest. Rather, Komura describes performing a complex difference calculation to correct a change in a spatial phase distribution due to a static magnetic change. For at least the reasons set forth above, Claim 14 is submitted to be patentable over Komura.

Claim 36 depends from Claim 14. When the recitations of Claim 36 are considered in combination with the recitations of Claim 14, Applicant submits that Claim 36 is likewise patentable over Komura.

For at least the reasons set forth above, Applicant respectfully request that the Section 103 rejection of Claims 12, 24, 30, and 36 be withdrawn.

In view of the foregoing amendment and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,



Robert B. Reeser, III
Registration No. 45,548
ARMSTRONG TEASDALE LLP
One Metropolitan Square, Suite 2600
St. Louis, Missouri 63102-2740
(314) 621-5070